

an armature being constituted by installing a coil formed by winding a magnet wire in a coil receiving section shaped like an annular recess formed by said planar yokes, said polar teeth, and said cylindrical ring of said stator yokes; and

a stator assembly which has flanges with bearings provided on both end surfaces of said armature and in which a rotor provided with a magnet for a magnetic field composed of a permanent magnet being installed to face said polar teeth of said stator with a minute gap provided therebetween;

wherein a number of said polar teeth equals a number  $N$  of rotor magnetic poles,

A) an extension of said two polar teeth in a circumferential direction are all the same and stay within a range of  $220/N$  to  $260/N$  degrees at central angle,

B) said polar teeth of said first and second stator yokes, respectively, are disposed at a spacing of approximately 180 degrees in terms of an electrical angle,

C) a relationship between a detent torque  $T_d$  (Nm) and a rated torque  $T_{rate}$  (Nm) is as follows:  $T_{rate}/4 \leq T_d \leq 8T_{rate}/4$  where  $T_{rate}$  denotes a maximum torque value obtained when a rated current is passed, and detent torque  $T_d$  denotes a maximum torque when a coil is in a deenergization mode, and

D) rotation of said rotor is restricted by a stopper so that a maximum angle of the rotational motion stays within a range of  $120/N$  to  $240/N$  degrees.

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(cont.)  
12. (new) An actuator according to Claim 11, wherein said stator yoke is comprised of a first stator yoke in which a planar yoke and a polar tooth are combined into one piece, and a second stator yoke in which a planar yoke, a polar tooth and a cylindrical ring are combined into one piece.

13. (new) An actuator according to Claim 11, wherein a pair of stator yokes, each being composed of said planar yoke and said cylindrical ring that are combined into one piece, are disposed to face each other.

14. (new) An actuator according to Claim 11, wherein said stopper is incorporated in said actuator.

15. (new) An actuator according to Claim 11, wherein a cut for destroying magnetic balance is provided in an axial direction on a central portion of one of a south pole and a north pole of said magnet for magnetic field.

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16. (new) An actuator according to Claim 11, wherein air gaps in a radial direction formed by said polar teeth and said rotor magnet are uneven, and air gaps at central portions of said polar teeth are narrower than air gaps at ends of said polar teeth.

17. (new) An actuator according to Claim 11, wherein said flanges are composed of a non-magnetic material.

Remarks

This is in Supplement to Amendment and Response A filed on July 28, 2000, and Applicant respectfully requests that the information contained herein be considered by the Examiner with the above-referenced application. Applicant has added new independent Claim 11 and new dependent claims 12-17 for consideration by the Examiner. Claims 1-10 are now pending in the application. No new matter has been added. Applicant respectfully requests reconsideration of the application in light of the amendments included in Amendment and Response A and the new claims added in Supplement to Amendment and Response A. The Examiner is encouraged to contact the undersigned by telephone if any matters need to be resolved.

Respectfully submitted,

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